

BASF Capron® 5233G 33% Glass-Filled Nylon 66 (Dry) (discontinued **)

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 30% Glass Fiber Filled

Material Notes:

Capron 5233G is a 33% glass fiber reinforced, polyamide 6,6 injection molding compound offering excellent strength, stiffness, creep resistance and dimensional stability. This balance of engineering properties, combined with excellent processability, makes it ideal in applications replacing metal, resulting in overall cost and weight savings. It is also available in heat stabilized (Capron 5233G HS) and/or pigmented versions. Capron 5233G is generally recommended for switch components, valve bodies and relay parts. Data provided by Allied Signal. Processing: Max. water content 0.12%. Product is supplied in sealed containers and drying is not required. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 85°C (185 °F). Is recommended. Drying time is dependent on moisture level. Melt Temperature: 290-315 degC (555-600 degF). Mold Temperature: 80-95 degC (176-203 degF). Injection and Packing Pressure: 35-125 bar (500-1500psi) A mold temperature of 80-95degC (176-203 degF) is recommended, but temperatures of as low as 45 degC (113degF) and as high as 105 degC (221 degF) can be used where applicable. Injection pressure controls the filling of the part and should be applied for 90% of ram travel. Packing pressure affects the final part and can be used effectively in controlling sink marks and shrinkage. It should be applied and maintained until the gate area is completely frozen off. Back pressure can be utilized to provide uniform melt consistency and reduce trapped air and gas. A maximum of 3.5 bar (50 psi) is recommended to minimize glass fiber breakage. Fast fill rates are recommended to insure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate. Capron® is no longer a part of the BASF standard line. The BASF nylon products have been consolidated in the Ultramid® line.

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Capron-5233G-33-Glass-Filled-Nylon-66-Dry-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.39 g/cc	0.0502 lb/in ³	ISO data
Water Absorption	0.80 %	0.80 %	24 hrs; ISO data
Moisture Absorption at Equilibrium	1.6 %	1.6 %	50% RH; 23°C; ISO data
Water Absorption at Saturation	5.6 %	5.6 %	in water; 23°C; ISO data
Viscosity Measurement	59	59	Formic Acid Viscosity; ISO data
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	ASTM and ISO value
Linear Mold Shrinkage, Transverse	0.010 cm/cm	0.010 in/in	ISO Data

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	210 MPa	30500 psi	Same value from ASTM and ISO tests; 5 mm/min.
Elongation at Break	3.0 %	3.0 %	ISO, 5 mm/minl
	3.0 %	3.0 %	ASTM, 5 mm/minl

Tensile Modulus Mechanical Properties	10.4 GPa Metric	1510 ksi English	same value from ASTM and ISO test. Comments
Flexural Yield Strength	320 MPa	46400 psi	ASTM Data
Flexural Modulus	8.80 GPa	1280 ksi	ISO Value
	9.585 GPa	1390 ksi	ASTM Value
Poissons Ratio	0.35	0.35	ISO data
Shear Modulus	3.90 GPa	566 ksi	calculated

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	39.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 20.0 $^{\circ}\text{C}$	21.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 68.0 $^{\circ}\text{F}$	ASTM data
Melting Point	260 $^{\circ}\text{C}$	500 $^{\circ}\text{F}$	ASTM and ISO test
Deflection Temperature at 0.46 MPa (66 psi)	260 $^{\circ}\text{C}$	500 $^{\circ}\text{F}$	Value for both ASTM and ISO data.
Deflection Temperature at 1.8 MPa (264 psi)	245 $^{\circ}\text{C}$	473 $^{\circ}\text{F}$	ISO data
	250 $^{\circ}\text{C}$	482 $^{\circ}\text{F}$	ASTM Data
Flammability, UL94	HB @Thickness 0.700 mm	HB @Thickness 0.0276 in	
	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	ISO data
Dielectric Strength	30.0 kV/mm	762 kV/in	ISO data

Processing Properties	Metric	English	Comments
Processing Temperature	290 $^{\circ}\text{C}$	554 $^{\circ}\text{F}$	See Materials Notes
Mold Temperature	80.0 $^{\circ}\text{C}$	176 $^{\circ}\text{F}$	See Materials Notes
Drying Temperature	85.0 $^{\circ}\text{C}$	185 $^{\circ}\text{F}$	See Materials Notes

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